

Abstract of the Disclosure

A transistor is provided, which is entirely and partially transparent by the use of a transparent channel layer made of zinc oxide or the like. A channel layer 11 formed of a transparent semiconductor such as zinc oxide ZnO. A transparent electrode is used for all of a source 12, a drain 13 and a gate 14, or a part of them. As the transparent electrode, a transparent conductive material such as conductive ZnO doped with, for example, group III elements is used. As a gate insulating layer 15, a transparent insulative material such as insulative ZnO doped with elements capable of taking a valence of one as a valence number or group V elements is used. If a substrate 16 must be transparent, for example, glass, sapphire, plastic or the like can be used as a transparent material.